

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

S3G TECHNOLOGY LLC,

Plaintiff,

v.

BELK, INC.,

Defendant.

Case No. 6:21-cv-832

**JURY TRIAL DEMANDED**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff S3G Technology LLC (“S3G”) alleges as follows for its complaint against Defendant Belk Stores, Inc. (“Defendant” or “Belk”):

**JURISDICTION AND VENUE**

1. This is an action for patent infringement in violation of the Patent Act of the United States, 35 U.S.C. §§ 1 et seq.
2. This Court has original and exclusive subject matter jurisdiction over patent infringement claims for relief under 28 U.S.C. §§ 1331 and 1338(a).
3. The Court has specific and general personal jurisdiction over Belk pursuant to due process and/or the Texas Long Arm Statute, due at least to Belk’s substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Texas and in this District.
4. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b) because, among other things, Belk is subject to personal jurisdiction in this judicial district, Belk has a

regular and established place of business in Texas and in this judicial district, Belk has purposely transacted business involving the accused products in this judicial district, including sales to one or more customers in Texas, and committed infringing acts complained of herein in this judicial district.

### **PARTIES**

5. S3G is a limited liability company organized under the laws of the State of California with its principal place of business in Foster City, California. S3G has been, and continues to, develop technology-based solutions that facilitate economic empowerment and development. For example, S3G is developing mobile solutions that enable the authenticated access to different types of spaces, including to buildings and portions thereof. The information that S3G's technology solutions may collect and maintain about its users further enable the delivery of educational and other services that may help these users to emerge from poverty and change their lives and those of their families. In connection with its mobile solutions, S3G has obtained patents covering its technology both in the United States and worldwide. For example, its patent portfolio includes additional granted patents and pending applications in Mexico, Brazil, Nicaragua, Costa Rica, India, Philippines and Indonesia. S3G is a Massachusetts Institute of Technology (MIT) Computer Science and Artificial Intelligence Lab (CSAIL) Startup, and is a member of MIT CSAIL Alliances' Startup Connect.

6. The Managing Member of S3G, who is also the named inventor of the asserted patents, is an award-winning MIT-trained researcher, technologist and inventor who has used and continues to use innovative technologies to address many of the world's critical problems, including poverty, access to financial services and access to clean drinking water. The World

Economic Forum has recognized him for his professional accomplishments, commitment to society and potential to contribute to shaping the future of the world.

7. S3G is informed and believes, and on that basis alleges, that Belk is a corporation existing under the laws of the State of Delaware, with a principal place of business located at 2700 Loop 340, Waco, TX 76711-2408. On information and belief, Belk sells and offers to sell products and provides services throughout Texas, including in this judicial district, and introduces products and services that perform infringing methods or processes knowing that they would be used, offered for sale or sold in Texas and this judicial district. Belk may be served through their registered agent, National Registered Agents, Inc. 1999 Bryan St., Ste. 900, Dallas, TX 75201-3136 or anywhere they may be found. S3G is further informed and believes, and on that basis alleges, that Belk derives a significant portion of its revenue from the use, promotion and distribution of its products and services, including through the use of Defendant's Belk mobile applications for devices running the Android operating system<sup>1</sup> and the Belk mobile applications for iOS2 (collectively, "Defendant app"), and its systems, methods, computing devices, including servers, software, and non-transitory computer readable storage medium that execute, run, store, support or facilitate the use of the Defendant app (collectively, "Accused Instrumentalities" or "Accused System").

8. S3G is informed and believes, and on that basis alleges, that, at all times relevant hereto, Defendant has conducted and continues to conduct business, including the use, distribution, promotion, and/or the offer for sale and sale of its products and services using the Accused Instrumentalities, including the Defendant app, in this Judicial District. On information

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<sup>1</sup> [https://play.google.com/store/apps/details?id=com.belk.android.belk&hl=en\\_US&gl=US](https://play.google.com/store/apps/details?id=com.belk.android.belk&hl=en_US&gl=US)

and belief, Defendant does business itself, or through its subsidiaries, affiliates, and franchisees, in the State of Texas and the Western District of Texas.

**PATENTS**

9. United States for No. 10,387,140 (the “’140 patent”) entitled “Modification of Terminal and Service Provider Machines Using an Update Server Machine” was duly and legally issued on August 20, 2019. A true and correct copy of the ’140 patent is attached hereto as Exhibit “A” and incorporated herein by this reference. By assignment, S3G is now the assignee of the entire right, title and interest in and to the ’140 patent, including all rights to enforce the ’140 patent and to recover for infringement. The ’140 patent is valid and in force.

10. United States Patent No. 10,831,468 (the “’468 patent”) entitled “Modification of Terminal and Service Provider Machines Using an Update Server Machine” was duly and legally issued on November 10, 2020. A true and correct copy of the ’468 patent is attached hereto as Exhibit “B” and incorporated herein by this reference. S3G is the owner of the entire right, title and interest in and to the ’468 patent, including all rights to enforce the ’468 patent and to recover for infringement. The ’468 patent is valid and in force.

**The Technical Problems Addressed by the Patents-in-Suit**

11. The ’140 and ’468 patents (collectively, the “Asserted Patents”) disclose that at the time of the invention, often times, after a computerized system has been initially constructed, modifications may be required, either to improve the functionality of the system or to customize the system to meet new requirements. Typically, a software application includes computer-executable instructions that are not able to be edited or modified directly by a developer. Instead, the developer may make the required changes by either creating or editing original source code. Once edited or modified, the updated source code must then be recompiled or

translated into an updated set of computer-executable instructions. These updated set of computer-executable instructions often includes a relatively large amount of information, which must then be distributed to the hardware devices in the system as an updated software application. '140 Patent, Col. 2:17-33.<sup>2</sup>

12. At the time of the invention, in many situations it may be difficult to distribute a newly compiled version of the updated software application to all of the devices in the system. This is particularly true if the system is distributed over a large geographic area making it difficult to locate each system device and transport it to a central location where the newly updated computer-executable instructions can be uploaded. This lack of physical access to the devices often means that the new software application cannot be uploaded using a traditional wired connection (*e.g.*, an interface cable). Col. 2:34-43.

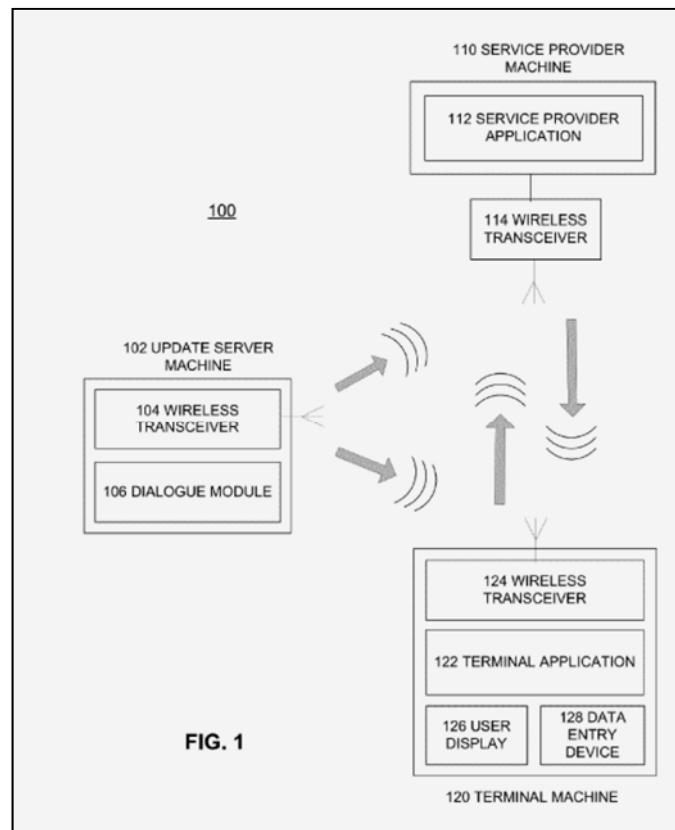
13. The Asserted Patents further explain that using a wireless communications network to upload the updated computer-executable instructions also has several significant drawbacks. First, the size of the updated computer-executable instructions may exceed the transmission capabilities of the communications network, *i.e.*, the size of the file is too large to be uploaded. Second, even if the updated computer-executable instructions can be uploaded and transmitted over the wireless network, it may take an excessive amount of time. Third, these problems are exacerbated if (1) the computer system includes a large number of devices that must be updated with the modified computer-executable instructions and (2) the devices contain different versions of the application or multiple applications need updates. Col. 2:44-3:2.

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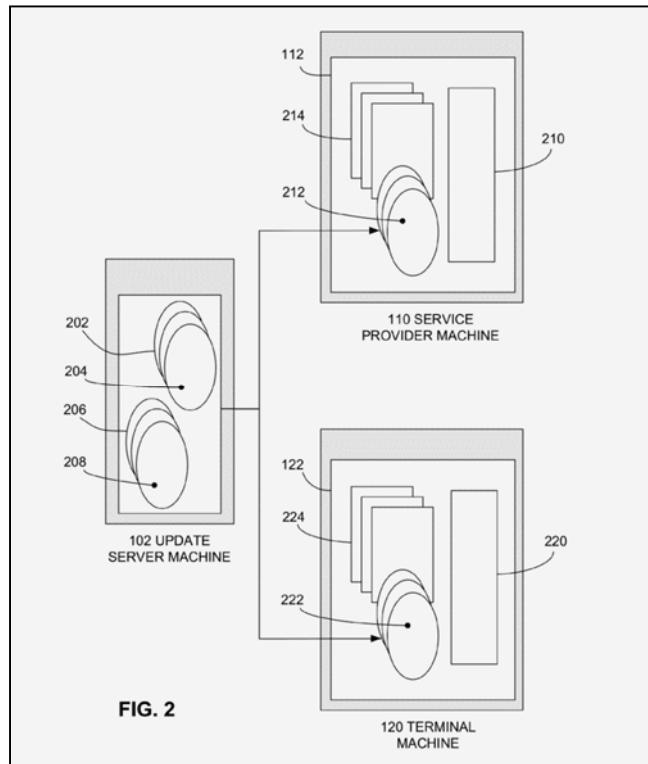
<sup>2</sup> Unless otherwise indicated, all citations are to the '140 patent.

### **The Claimed Solution to the Technical Problems**

14. The Asserted Patents are directed to a technological solution, *i.e.*, improving the way computers operate. In particular, the Asserted Patents claim a specific computerized system able to provide efficient modification of a specific type of software applications that are distributed across a network of remote devices. Col. 3:3-5. As an example, FIG. 1 (below) discloses, and the Asserted Patents claim, a unique and very specific type of computer system structure involving three entities: a service provider machine 110, a terminal machine 120 and an update server machine 102. Within this specific system, a terminal machine 120 and a service provider machine 110 communicate via applications running on the machines (as depicted by the vertical arrows in the figure).



15. As shown below in FIG. 2, the applications running on these machines have a very specific structure: namely, the terminal application 122 comprises first computer-executable instructions 224, which has been construed to mean “computer instructions that can be directly executed on a processor,”<sup>3</sup> and first code 222. Col. 8:27-32. The Asserted Patents expressly define that “code” is not just any generic software code; instead, the Asserted Patents teach a very specific structure for “code,” clearly stating that “[t]he code represents at least some information that **must be translated** by the software application before it can be implemented on the machine processor.” Col. 4:57-64 (emphasis added).<sup>4</sup> The terminal application conducts the terminal machine’s portion of the dialogue with the service provider machine.



<sup>3</sup> See also S3G Tech. LLC v. Unikey Techs., Inc., Civil Action No. 6:16-cv-400-RWS-KNM, Dkt. 74 [Report and Recommendation of United States Magistrate Judge], attached hereto as Exhibit C; see also Dkt. 91 [Order Adopting Rep. & Rec. of Mag. Judge], attached hereto as Exhibit D.

<sup>4</sup> Consistent with the specification, the term "code" has been construed to mean "information that must be translated before it can be executed on a processor." See Exhibit C at Appendix A.

16. In like fashion, as shown in FIG. 2, the service provider machine runs an application having a very specific structure: namely, the provider application 112 comprises second computer-executable instructions 214, which can be directly executed on a processor, and second code 212, which must be translated before it can be executed on a processor. The provider application conducts the service provider's portion of the dialogue with the terminal machine.

17. FIGS. 1 and 2 also show that the computer system structure in the Asserted Patents is unique in having a third entity, an update server machine. The update server machine is able to communicate with both the terminal machine and the service provider machine (as depicted by the diagonal arrows in the FIG. 1). The update server machine also has a unique and very specific data structure for communicating with the terminal and service provider machines: namely, the update server machine sends one or more dialogue modules, which has been construed to mean "code or instructions related to a dialogue sequence."<sup>5</sup>

18. As part of the dialogue between the terminal machine and the service provider machine, the terminal machine is modified by receiving a terminal dialogue module. As noted, the dialogue module is a specific structure that contains information that must be translated by the software application before it can be implemented on the machine processor. After receiving the dialogue module, specific actions can be taken. For example, the dialogue module may replace existing terminal code already saved on the terminal machine or the terminal code may supplement other code previously saved on the terminal machine. Col. 9:41-49. These steps produce first updated code, which adapts the terminal application to display a further prompt for the terminal machine's portion of a modified dialogue sequence with the service provider

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<sup>5</sup> *Id.*

machine. Significantly, when terminal and service provider applications are modified using a dialogue module it does not result in replacing the prior applications with entirely new applications. This is important because this system with its specific structures results in a number of technological benefits: namely, computing resource, improved network utilization, and design efficiencies. Col. 7:31-33; 15:52-59; FIGS. 8A-B.

19. During litigation of the Asserted Patents, the Court also held that the “dialogue module” is a very specific type of structure:

The recital [in the claims] of “sending a . . . dialogue module” demonstrates that the claim uses the term “module” to refer to *a particular type of structure rather than to any structure for performing a function*. Further, the specification is consistent with such an interpretation by disclosing that a “dialogue module” can contain code or other data and can be communicated....

Exhibit C at 12 (emphasis added).

20. The Court also held that the claimed three entity system of the Asserted Patents also is a particular structure. Specifically, the Court stated that “the surrounding claim language [of terminal machine] provides details regarding how the terminal machine interacts with other components . . . in a way that . . . inform[s] the structural character of [it] or otherwise impart[s] structure.” *Id.* at 23. The Court held that “[s]ubstantially the same analysis” applies to service provider and update server machines. *Id.* at 26, 29.

21. Among other features, the Asserted Patents thus claim an unconventional and inventive solution to the problem of transmitting large executable files required to replace applications running on remote devices, which previously required networks having massive bandwidth. Specifically, the Asserted Patent disclose the unconventional and inventive system and method of transmitting dialogue modules to terminal and service provider machines to modify and/or update software applications running on those machines. The software applications also are unconventional and inventive in utilizing both computer-executable

instructions, which can be directly executed on a processor, and code, which must be translated before it can be executed on a processor, to solve this technological problem.

22. The use of “dialogue modules” containing “code” also results in various technical benefits. For example, as the Asserted Patents explain, transmitting an entire software application may represent a “large amount of information” that may not be feasible to transmit due to bandwidth limitations on data transfer over the network. Col. 2:44-49. And, even if an upload of the entire modified application is possible, it may take an unacceptable amount of time due to the slow transfer rate of a wireless network.” Col. 2:58-61. By comparison, the Asserted Patents disclose that, “[i]n a preferred embodiment, the dialogue module is less than 1 Mb to facilitate communication over a network with limited data transfer capacity.” Col. 7:31-33. Therefore, the use of the “dialogue modules” reduces network bandwidth utilization, thereby allowing efficient modification of applications running on remote devices on a network. Another benefit of using “dialogue modules” is that it enables the use of design tools that facilitate their development and modification. Col. 15:52-59, FIGS. 8A,B. These tools thus enable and improve the efficiency of modifying applications.

23. During the prosecution of patents related to the Asserted Patents, the United States Patent Examiner allowed the claims because, among other things, this unique structure described and claimed in the Asserted Patents was not known and would not have been obvious:

As Applicants pointed out in the Remarks, **the prior art of record do not disclose and/or fairly suggest at least claimed limitations recited** in such manners in independent claim 1 " ... an update server machine comprising a processor and operable for sending a terminal dialogue module to the terminal machine and a provider dialogue module to the service provider machine to allow the terminal machine and the service provider machine to conduct a dialogue sequence with each other [...]....wherein the terminal application comprises a first set of computer-executable instructions and a first set of code, wherein the first set of computer-executable instructions are able to execute directly on a terminal processor of the terminal machine, and wherein the first set of code

**is not able to execute directly on the terminal processor; ... wherein the first set of updated code adapts the terminal application to use a second sequence of prompts and a second sequence of data entries for the terminal machine's portion of a modified dialogue sequence with the service provider machine...**

**These claimed limitations are not present in the prior art of record and would not have been obvious, thus all pending claims are allowed.**

Exhibit E ['571 FH, Notice of Allowability, dated July 11, 2013, at Examiner's Statement of Reasons for Allowance] (emphasis added).

### **FIRST CLAIM FOR RELIEF**

#### **Infringement of the '140 patent**

24. S3G refers to and incorporates herein by reference the preceding paragraphs.

25. Defendant, by the acts complained of herein, and by making, using, selling, offering for sale, and/or importing in the United States, including in the Western District of Texas, instrumentalities embodying the invention, has in the past, does now, and continues to infringe the '140 patent directly, contributorily, and/or by inducement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271.

26. At least since the filing of this complaint, Defendant has had actual knowledge of the '140 patent.

27. On information and belief, Defendant has directly infringed one or more claims of the '140 patent by making, using, importing, supplying, selling, or offering for sale the Accused Instrumentalities. By doing so, Defendant has directly infringed at least claim 1 of the '140 patent.

28. For example, Defendant provides a system that performs the method of conducting a dialogue sequence between a terminal machine and a service provider machine ("Accused System").

29. The Accused System performs a method that displays a first prompt on a terminal display of the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) by running a terminal application (*e.g.*, Defendant app for Android), the terminal application comprising first computer-executable instructions and first code that conduct the terminal machine's portion of the dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) between the terminal machine and the service provider machine. For example, without limitation, using the Defendant app, a user is able to review orders, address book entries and payment methods. The user is prompted with one or more orders, address book entries and payment methods to, for example, place an order. The user is also able to edit and delete one or more orders, address book entries and payment methods. This information is necessarily communicated to the Defendant's server because, for example, without limitation, it must be stored and available to the user in the future. One of ordinary skill would understand that the terminal application (*e.g.*, Defendant app for Android) comprises first computer executable instructions and first code that conduct the terminal machine's portion of the dialogue sequence between the terminal machine and the service provider machine. For example, without limitation, the Android Runtime (ART) comprises computer executable instructions, while the Defendant app program comprises code.

30. The method performed by the Accused System includes receiving entry of first data at the first prompt. As explained above, in the accused system, the user is able to edit and delete one or more orders, address book entries and payment methods. One of ordinary skill would understand this to be receiving entry of first data at the first prompt.

31. The method performed by the Accused System includes communicating information associated with the first data from the terminal machine (*e.g.*, an Android smart

phone or other Android computing device running the Defendant app) to a provider application (*e.g.*, Defendant server application) at the service provider machine (*e.g.*, Defendant server), the provider application (*e.g.*, Defendant server application) comprising second computer-executable instructions and second code that conduct the service provider machine's portion of the dialogue sequence (*e.g.*, series of prompts and corresponding user data entries), and wherein the provider application (*e.g.*, Defendant server application) is capable of sending an authorization code to the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app). In the Accused System, information associated with the first data is communicated from the terminal machine to the provider application at the service provider machine. For example, without limitation, using the Defendant app, a user is able to edit and delete orders, address book entries and payment methods. This information is necessarily communicated to the Defendant server because, for example, without limitation, it must be stored and available to the user in the future. The provider application (*e.g.*, Defendant server application, which, upon information and belief, is a Java application) runs on the service provider machine (*e.g.*, Defendant server), and one of ordinary skill would understand that the Defendant server application comprises second computer-executable instructions and second code. For example, without limitation, the Java platform comprises computer-executable instructions, while the Java program comprises code. In the Accused System, the provider application is capable of sending an authorization code to the terminal machine, for example, without limitation, by authorizing logging into the Accused System.

32. The method performed by the Accused System includes storing at least a portion of the information associated with the first data in memory for analysis. For example, without limitation, the service provider stores for analysis at least a portion of the information associated

with the first data, e.g., an order, so that these orders may be analyzed and the appropriate rewards can be made available on the Accused System. If at least a portion of the information was not stored in memory, the rewards would not be available to the user.

33. The method performed by the Accused System includes receiving, at the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app), third code that modifies at least a portion of the first code to produce first updated code, wherein the first updated code adapts the terminal application (e.g., Defendant app for Android) to conduct a modified dialogue sequence (e.g., series of prompts and corresponding user data entries) with the service provider machine. For example, without limitation, when a user inputs an order, an address book entry or payment method using the Accused System, information is communicated to the user's Defendant app (terminal application on the terminal machine). The format of the information that is sent from the Defendant server to the user's Defendant app is, for example, JSON. At least a portion of the information is necessarily stored on the terminal machine because, for example, without limitation, the order, address book entry or payment method appears on the user's Android device and allows the user to select it even at a later time. Therefore, the third code modifies at least a portion of the first code to produce first updated code. The modified dialogue sequence (e.g., series of prompts and corresponding user data entries) is evidenced in the one or more orders, address book entries or payment methods, and the corresponding user data entry of selecting a desired order, address book entry or payment method (e.g., button). For example, without limitation, the modified dialogue sequence is evidenced by the ability to access *new* orders, address book entries or payment methods.

34. The Accused System performs a method wherein receiving the third code in response to the terminal machine satisfying a trigger condition. For example, as explained

above, the third code is received in response to the terminal machine satisfying a trigger condition, e.g., user action, such as connecting to the network and/or accessing the Defendant app.

35. The Accused System performs a method wherein receiving the third code from an update server machine that is separate and distinct from the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app) and the service provider machine (e.g., Defendant server). For example, as explained above, the third code is received from an update server machine (e.g., an Android, iOS or other smart phone or other computing device accessing the Defendant system).

36. The Accused System performs a method wherein the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app) and the service provider machine (e.g., Defendant server) include different types of processors, whereby the first computer-executable instructions are not able to be executed on the service provider machine and the second computer-executable instructions are not able to be executed on the terminal machine. For example, without limitation, many popular mobile handsets are based on the Snapdragon processor. (See e.g., <https://www.qualcomm.com/products/snapdragon>; <https://www.qualcomm.com/products/snapdragon/devices/all>). One of ordinary skill understands that processors used for mobile handsets are different from processors used for servers. And, because of architecture and other differences, the first computer-executable instructions are not able to be executed on the provider processor, and the second computer-executable instructions are not able to be executed on the terminal processor. For example, ARM-based processors are oftentimes used for mobile devices, e.g., smart phones. (See e.g., <http://www.arm.com/markets/mobile/>, “The market defining ARM® Cortex®-A 32-bit and 64-

bit processors are at the heart of the mobile application processors.”). Alternative, x86 processors are oftentimes used for desktop and server machines. The architectures are different, for example, because an ARM processor is a Reduced Instruction Set Computer (RISC) processor, while an x86 processor is a Complex Instruction Set Computer (CISC) processor. RISC architectures have a smaller number of more general purpose instructions. (See e.g., [http://stackoverflow.com/questions/14794460/how-does-the-arm-architecture-differ-from-x86.'\).](http://stackoverflow.com/questions/14794460/how-does-the-arm-architecture-differ-from-x86.)

37. The Accused System performs a method wherein the first and second computer-executable instructions are fully compiled. Since the first computer-executable instructions are able to execute directly on a terminal processor of the terminal machine and the second computer-executable instructions are able to execute directly on a provider processor of the service provider machine, one of ordinary skill would understand that they are fully compiled.

38. The Accused System performs a method wherein the terminal machine is distinct from the service provider machine. As identified and explained above, the terminal machine (e.g., an Android smart phone or other Android computing device running the Defendant app) is distinct from the service provider machine (e.g., Defendant server).

39. On information and belief, at least since the filing of this Complaint, Defendant has knowingly and actively induced the infringement of one or more of the '140 patent claims by, *inter alia*, marketing, promoting, and offering for use the Accused Instrumentalities, knowingly and intending that the use of such instrumentalities by Defendant customers and by users infringes the '140 patent. For example, Defendant intends to induce such infringement by, among other things, promoting users to download and run the Defendant app knowing that the use of its applications on a user's portable device or smart phone in connection with supporting systems such as its server(s) infringes one or more claims of the '140 patent.

40. On information and belief, at least since the filing of this Complaint, Defendant has contributed to the infringement of the '140 patent by, *inter alia*, marketing and promoting products and services. Defendant has used and promoted within the United States the Accused Instrumentalities. The Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial non-infringing use and are known by Defendant to be especially made or especially adapted to the infringe the '140 patent. As a result, Defendant's Accused Instrumentalities have been used by its customers and by users to infringe the '140 patent. Defendant continues to engage in acts of contributory infringement of the '140 patent.

41. By reason of the acts of Defendant alleged herein, S3G has suffered damage in an amount to be proved at trial.

42. Defendant threatens to continue to engage in the acts complained of herein and, unless restrained and enjoined, will continue to do so, all to S3G's irreparable injury. It would be difficult to ascertain the amount of compensation that would afford S3G adequate relief for such future and continuing acts, and a multiplicity of judicial proceedings would be required. S3G does not have an adequate remedy at law to compensate it for the injuries threatened.

### **SECOND CLAIM FOR RELIEF**

#### **Infringement of the '468 patent**

43. S3G refers to and incorporates herein by reference the preceding paragraphs.

44. Defendant, by the acts complained of herein, and by making, using, selling, offering for sale, and/or importing in the United States, including in the Western District of Texas, instrumentalities embodying the invention, has in the past, does now, and continues to infringe the '468 patent directly, contributorily, and/or by inducement, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271.

45. At least since the filing of this complaint, Defendant has had actual knowledge of the '468 patent.

46. On information and belief, Defendant has directly infringed one or more claims of the '468 patent by making, using, importing, supplying, selling, or offering for sale the Accused Instrumentalities. By doing so, Defendant has directly infringed at least claim 1 of the '468 patent.

47. For example, the Accused System performs a method of conducting a dialogue sequence between a terminal machine and a service provider machine.

48. The Accused System performs a method comprising displaying a first prompt on a terminal display of the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) by running a terminal application (*e.g.*, Defendant app for Android), the terminal application comprising first computer-executable instructions and first code that conduct the terminal machine's portion of the dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) between the terminal machine and the service provider machine, wherein the first code comprises information to be translated. For example, without limitation, using the Defendant app, a user is able to review orders, address book entries and payment methods. The user is prompted with one or more orders, address book entries and payment methods to, for example, place an order. The user is also able to edit and delete one or more orders, address book entries and payment methods. This information is necessarily communicated to the Defendant's server because, for example, without limitation, it must be stored and available to the user in the future. One of ordinary skill would understand that the terminal application (*e.g.*, Defendant app for Android) comprises first computer executable instructions and first code that conduct the terminal machine's portion of the dialogue sequence

between the terminal machine and the service provider machine. For example, without limitation, the Android Runtime (ART) comprises computer executable instructions, while the Defendant app program comprises code. One of ordinary skill further understands that this code comprises information to be translated.

49. The method performed by the Accused System includes receiving entry of first data at the first prompt. As explained above, in the Accused System, the user is able to edit and delete one or more orders, address book entries and payment methods. One of ordinary skill would understand this to be receiving entry of first data at the first prompt.

50. The method performed by the Accused System includes communicating information associated with the first data from the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) to a provider application (*e.g.*, Defendant server application) at the service provider machine (*e.g.*, Defendant server), the provider application (*e.g.*, Defendant server application) comprising second computer-executable instructions and second code that conduct the service provider machine's portion of the dialogue sequence (*e.g.*, series of prompts and corresponding user data entries), wherein (i) the second code comprises information to be translated, and (ii) the terminal application is capable of receiving an authorization signal from the service provider machine. In the Accused System, information associated with the first data is communicated from the terminal machine to the provider application at the service provider machine. For example, without limitation, using the Defendant app, a user is able to edit and delete orders, address book entries and payment methods. This information is necessarily communicated to the Defendant server because, for example, without limitation, it must be stored and available to the user in the future. The provider application (*e.g.*, Defendant server application, which, upon information and belief, is a

Java application) runs on the service provider machine (*e.g.*, Defendant server), and one of ordinary skill would understand that the Defendant server application comprises second computer-executable instructions and second code. For example, without limitation, the Java platform comprises computer-executable instructions, while the Java program comprises code. One of ordinary skill understands that the second code comprises information to be translated. In the Accused System, the terminal application is capable of receiving an authorization signal from the service provider machine, for example, without limitation, by authorizing logging into the Defendant system.

51. The method performed by the Accused System includes receiving, at the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app), third code that replaces or supplements at least a portion but not all of the first code to produce first updated code, wherein the first updated code adapts the terminal application (*e.g.*, Defendant app for Android) to conduct a modified dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) with the service provider machine. For example, without limitation, when a user inputs an order, an address book entry or payment method using the Defendant system, information is communicated to the user's Defendant app (terminal application on the terminal machine). The format of the information that is sent from the Defendant server to the user's Defendant app is, for example, JSON. At least a portion of the information is necessarily stored on the terminal machine because, for example, without limitation, the order, address book entry or payment method appears on the user's Android device and allows the user to select it even at a later time. One of ordinary skill would understand this to supplement at least a portion but not all of the first code. Therefore, the third code replaces or supplements at least a portion but not all of the first code to produce first

updated code. The modified dialogue sequence (*e.g.*, series of prompts and corresponding user data entries) is evidenced in the one or more orders, address book entries or payment methods, and the corresponding user data entry of selecting a desired order, address book entry or payment method (*e.g.*, button). For example, without limitation, the modified dialogue sequence is evidenced by the ability to access *new* orders, address book entries or payment methods.

52. The third code used in the method performed by the Accused System comprises information to be translated. For example, as explained above, upon information and belief, in the accused system, the third code is in JSON format. One of ordinary skill would understand that information in JSON format comprises information to be translated.

53. The method performed by the Accused System includes receiving the third code after the terminal machine satisfies a trigger condition. For example, as explained above, the third code is received after the terminal machine satisfies a trigger condition, *e.g.*, user action, such as connecting to the network and/or accessing the Defendant app.

54. The third code in the method performed by the Accused System includes is received from an update server machine that is separate and distinct from the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) and the service provider machine (*e.g.*, Defendant server). For example, as explained above, the third code is received from an update server machine (*e.g.*, an Android, iOS or other smart phone or other computing device accessing the Defendant system).

55. The method performed by the Accused System includes that the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) and the service provider machine (*e.g.*, Defendant server) include different types of processors, whereby the first computer-executable instructions are not able to be executed on the service

provider machine and the second computer-executable instructions are not able to be executed on the terminal machine. For example, without limitation, many popular mobile handsets are based on the Snapdragon processor. (See e.g., <https://www.qualcomm.com/products/snapdragon>; <https://www.qualcomm.com/products/snapdragon/devices/all>). One of ordinary skill understands that processors used for mobile handsets are different from processors used for servers. And, because of architecture and other differences, the first computer-executable instructions are not able to be executed on the provider processor, and the second computer-executable instructions are not able to be executed on the terminal processor. For example, ARM-based processors are oftentimes used for mobile devices, e.g., smart phones. (See e.g., <http://www.arm.com/markets/mobile/>, “The market defining ARM® Cortex®-A 32-bit and 64-bit processors are at the heart of the mobile application processors.”). Alternative, x86 processors are oftentimes used for desktop and server machines. The architectures are different, for example, because an ARM processor is a Reduced Instruction Set Computer (RISC) processor, while an x86 processor is a Complex Instruction Set Computer (CISC) processor. RISC architectures have a smaller number of more general purpose instructions. (See e.g., <http://stackoverflow.com/questions/14794460/how-does-the-arm-architecture-differ-from-x86>).

56. The method performed by the Accused System includes that the first and second computer-executable instructions are fully compiled. Since the first computer-executable instructions are able to execute directly on a terminal processor of the terminal machine and the second computer-executable instructions are able to execute directly on a provider processor of the service provider machine, one of ordinary skill would understand that they are fully compiled.

57. The method performed by the Accused System includes that the terminal machine is distinct from the service provider machine. As identified and explained above, the terminal machine (*e.g.*, an Android smart phone or other Android computing device running the Defendant app) is distinct from the service provider machine (*e.g.*, Defendant server).

58. On information and belief, at least since the filing of this Complaint, Defendant has knowingly and actively induced the infringement of one or more of the '468 patent claims by, *inter alia*, marketing, promoting, and offering for use the Accused Instrumentalities, knowingly and intending that the use of such instrumentalities by Defendant customers and by users infringes the '468 patent. For example, Defendant intends to induce such infringement by, among other things, promoting users to download and run the Defendant app knowing that the use of its applications on a user's portable device or smart phone in connection with supporting systems such as its server(s) infringes one or more claims of the '468 patent.

59. On information and belief, at least since the filing of this Complaint, Defendant has contributed to the infringement of the '468 patent by, *inter alia*, marketing and promoting products and services. Defendant has used and promoted within the United States the Accused Instrumentalities. The Accused Instrumentalities are not staple articles or commodities of commerce suitable for substantial non-infringing use and are known by Defendant to be especially made or especially adapted to the infringe the '468 patent. As a result, Defendant's Accused Instrumentalities have been used by its customers and by users to infringe the '468 patent. Defendant continues to engage in acts of contributory infringement of the '468 patent.

60. By reason of the acts of Defendant alleged herein, S3G has suffered damage in an amount to be proved at trial.

61. Defendant threatens to continue to engage in the acts complained of herein and, unless restrained and enjoined, will continue to do so, all to S3G's irreparable injury. It would be difficult to ascertain the amount of compensation that would afford S3G adequate relief for such future and continuing acts, and a multiplicity of judicial proceedings would be required. S3G does not have an adequate remedy at law to compensate it for the injuries threatened.

**JURY DEMAND**

62. S3G demands a jury trial on all issues so triable.

**PRAYER FOR RELIEF**

WHEREFORE, S3G prays for relief as follows:

- A. For an order finding that '140 and '468 patents are valid and enforceable;
- B. For an order finding that Defendant has infringed '140 and '468 patents directly, contributorily and/or by inducement, in violation of 35 U.S.C. § 271;
- C. For an order finding that Defendant's infringement is willful;
- D. For an order temporarily, preliminarily and permanently enjoining Defendant, its officers, directors, agents, servants, affiliates, employees, subsidiaries, divisions, branches, parents, attorneys, representatives, privies, and all others acting in concert or participation with any of them, from infringing '140 and '468 patents directly, contributorily and/or by inducement, in violation of 35 U.S.C. § 271;
- E. For an order directing Defendant to file with the Court, and serve upon S3G's counsel, within thirty (30) days after entry of the order of injunction, a report setting forth the manner and form in which it has complied with the injunction;
- F. For an order awarding S3G general and/or specific damages adequate to compensate S3G for the infringement by Defendant, including a reasonable royalty and/or lost

profits, in amounts to be fixed by the Court in accordance with proof, including enhanced and/or exemplary damages, as appropriate, as well as all of the profits or gains of any kind made by Defendant from its acts of patent infringement;

G. For an order awarding S3G pre-judgment interest and post-judgment interest at the maximum rate allowed by law;

H. For an order requiring an accounting of the damages to which S3G is found to be entitled;

I. For an order declaring this to be an exceptional case pursuant to 35 U.S.C. § 285 and awarding S3G its attorneys' fees;

J. For an order awarding S3G its costs of court; and

K. For an order awarding S3G such other and further relief as the Court deems just and proper.

DATED: August 11, 2021

Respectfully Submitted,

By: /s/ Charles Ainsworth

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